

Claims

Having thus disclosed my invention, what I claim as new and desire to secure by Letters Patent of the United States of America is:

Claim 1. A filtration media for drinking water which is composed of 5% to 15% zirconia, 60% to 80% activated carbon, and 15% to 25% binder material.

Claim 2. A filtration media in accordance with Claim 1, wherein the carbon content is about 70%.

Claim 3. A filtration media in accordance with Claim 1, which is composed of about 10% zirconia, about 70% activated carbon, and the balance of binder material.

Claim 4. A filtration media for a small filter wherein the media occupies a space less than about 20 cubic inches and wherein the filtration media is composed of 15% to 25% zirconia, 45% to 60%, activated carbon, and the balance of binder material.

Claim 5. A filtration media in accordance with Claim 4, wherein the zirconia content is about 20%.

Claim 6. A filtration media in accordance with Claim 4, wherein the zirconia content is about 25% and the carbon content is about 60%.

Claim 7. A filtration media for the filtration of drinking water which is composed of: amorphous aluminosilicate material wherein the major portion of its pores have diameters in the range of 60 Angstroms to 100 Angstroms, 5% to 10%: activated carbon, 60% to 70%: zirconia, 5% to 15%: and a binder of at least 15%.

Claim 8. A filtration media in accordance with Claim 7, wherein the aluminosilicate content is about 10%, and the activated carbon content is about 65%.

Claim 9. A filtration media in accordance with Claim 7, wherein the zirconia content is about lot.

Claim 10. A filtration media for drinking water which is composed of zirconia of about 4% to 15%, activated carbon of about 65%, alumina of about 5% to 15% and a balance of at least lot binder material.

Claim 11. A filtration media in accordance with claim 10, wherein the content of said zirconia is about 10%.

Claim 12. A filtration media in accordance with Claim 10, wherein said alumina content is about lot.

Claim 13. A filtration media for drinking water which is composed of silica gel (60 Angstroms) of about 5% to 10%, activated carbon of about 70% to 80%, and binder material of a minimum of about 15%.

Claim 14. A filtration media in accordance with Claim 13, wherein the content of said silica gel (60 Angstroms) is about 10% and the content of said activated carbon is about 75%.

Claim 15. A filtration media for drinking water which is composed of silica gel (60 Angstroms) of about 5% to 10%, zirconia of about 5% to 15%, activated carbon of about 60% to 70%, and binder material of not less than about 10%.

Claim 16. A filtration material in accordance with Claim 15, wherein the content of said zirconia is about 10%.

Claim 17. A filtration media in accordance with Claim 15, wherein the content of said activated carbon is about 65%.

Claim 18. A filtration media for drinking water which is composed of silica gal (60 Angstroms) 50% to 70%, zirconia of about 15% to 25%, and binder material of about 15% to 25%.

Claim 19. A filter material in accordance with Claim 18, wherein the content of said silica gal (60 Angstroms) is about 60%.

Claim 20. A filtration media in accordance with Claim 18, wherein the content of said zirconia is about 15%.

Claim 21. A filtration media in accordance with claim 18, wherein the content of said silica gel (60 Angstroms) is about 60%.

Claim 22. A filtration media for drinking water which is composed of aluminosilicate of about 5% to 15%, zirconia of about 5% to 15%, silica gal (60 Angstroms) or about 5% to 10%, activated carbon of about 50% to 70% and binder material of 15% to 25%.

Claim 23. A filtration media in accordance with Claim 22, wherein said activated carbon content is about 60%.

Claim 24. A filtration media in accordance with Claim 22, wherein said zirconia content is about 5%.

Claim 25. The use of zirconia as a filtration media to remove fluorides from drinking water.

Claim 26. A water filter composed of zirconia which has been molded into a desired shape from zirconia powder mixed with 10% to 30% binder material.

Claim 27. A method of regenerating a filtration media composed of zirconia which comprises flowing a 5% sodium hydroxide fluid through it for a sufficient period of time for the removal of ions from the filtration media.

Claim 28. A filtration media for drinking water at point-of-use which comprises in series alumina filtration media and zirconia filtration media, of respective percentage ratios of between about 4 to 1 and 1 to 1.

Claim 29. A filter for use in filtering drinking water at point-of-use which comprises, in series, first a filtration media composed of alumina, and second a filtration media composed of zirconia.

Claim 30. The use of zirconia as a filtration media to remove arsenic from drinking water.

Claim 31. A filtration media for the removal of heavy metals and organic substances in drinking water which is composed of silica gel (60 Angstroms), aluminosilicate and activated carbon.

Claim 32. A filtration media to reduce chloroform and VOC from drinking water which comprises a mixture of silica gel (60 Angstroms) and carbon block which was made from coconut shell.

Claim 33. A filtration media which is composed of about 7% zirconia, 7% silica gel (60 Angstroms), 7% aluminosilicate and about 79% activated carbon.

Claim 34. A filtration media which is composed of about 20% silica gel (60 Angstroms) and about 80% activated carbon.

Claim 35. A filtration media which is composed of about 15% silica gel (60 Angstroms), about 15% aluminosilicate and about 70% activated carbon.

Claim 36. A filtration media which is composed of about 70% activated carbon, about 10% aluminosilicate, about 10% zirconia and about 10% silica gel (60 Angstroms), said activated carbon being coated with said aluminosilicate, zirconia and silica gel (60 Angstroms).

Claim 37. A filtration media which is contained in volumes from 5 cubic inches to 3,000 cubic inches and which is composed of a mixture of zirconia, silica gel (60 Angstroms) and carbon block.

Claim 38. A filtration media which is composed of a mixture of silica gel (60 Angstroms) and activated carbon, wherein said silica gel (60 Angstroms) is coated on granulars of said activated carbon.

Claim 39. A filtration media for removing arsenic, chloroform and fluorides from drinking water which is composed of zirconia in granular form.

Claim 40. A filtration apparatus comprising a gravity column having a first stage which contains a filtration media composed of alumina (gamma, acid washed) and a second stage containing a filtration media composed of zirconia.

Claim 41. A filtration media comprising a mixture of zirconia and granular or powdered activated carbon.